

**FIG. 1**

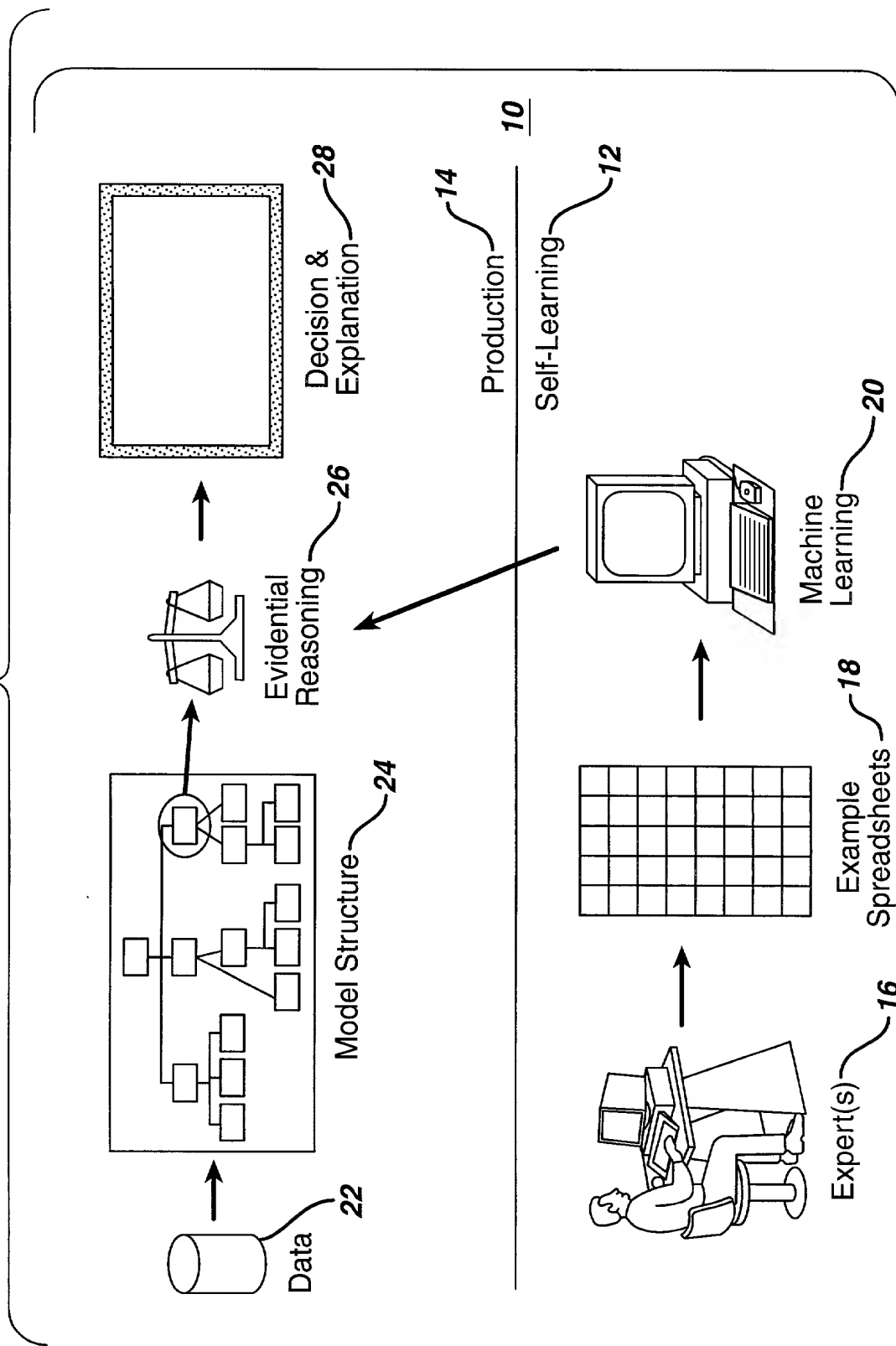


FIG. 2

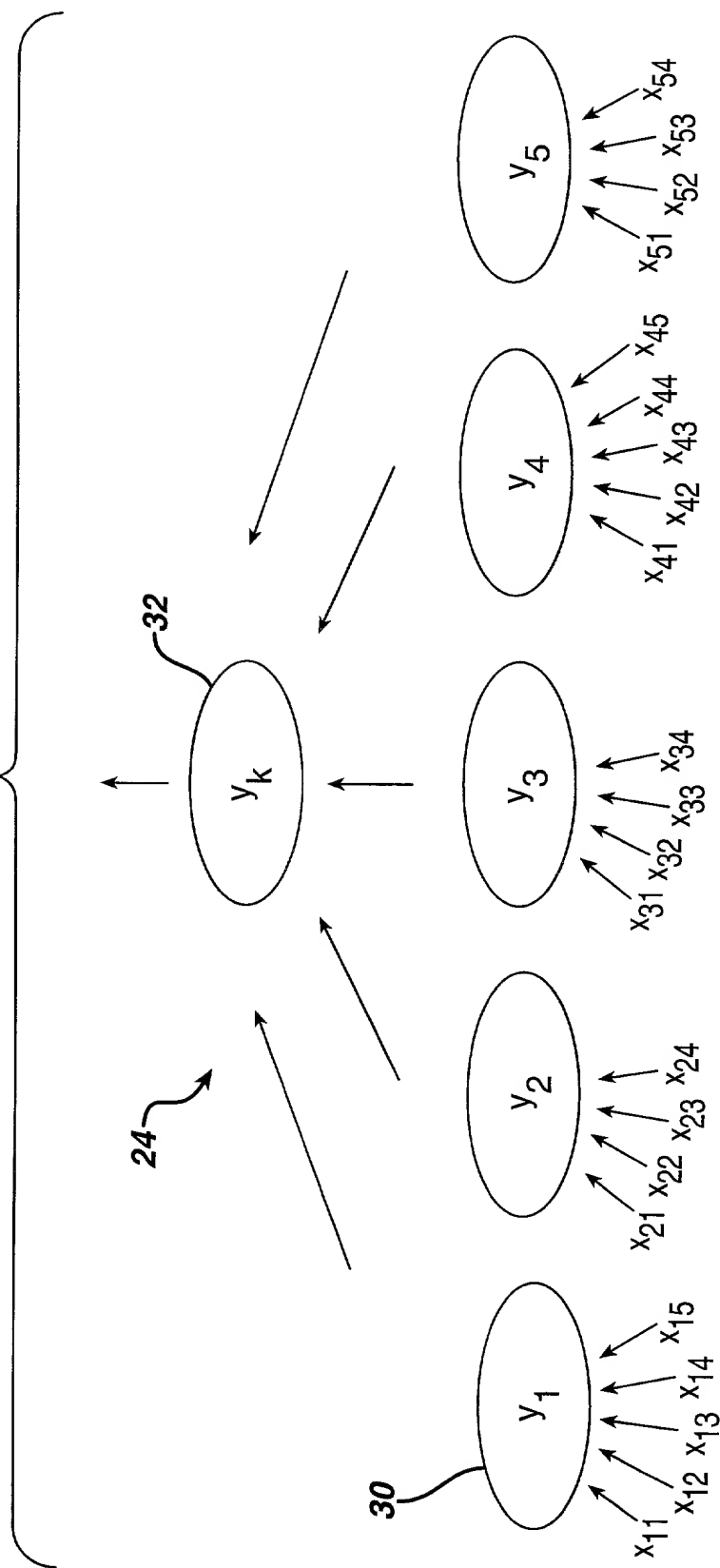
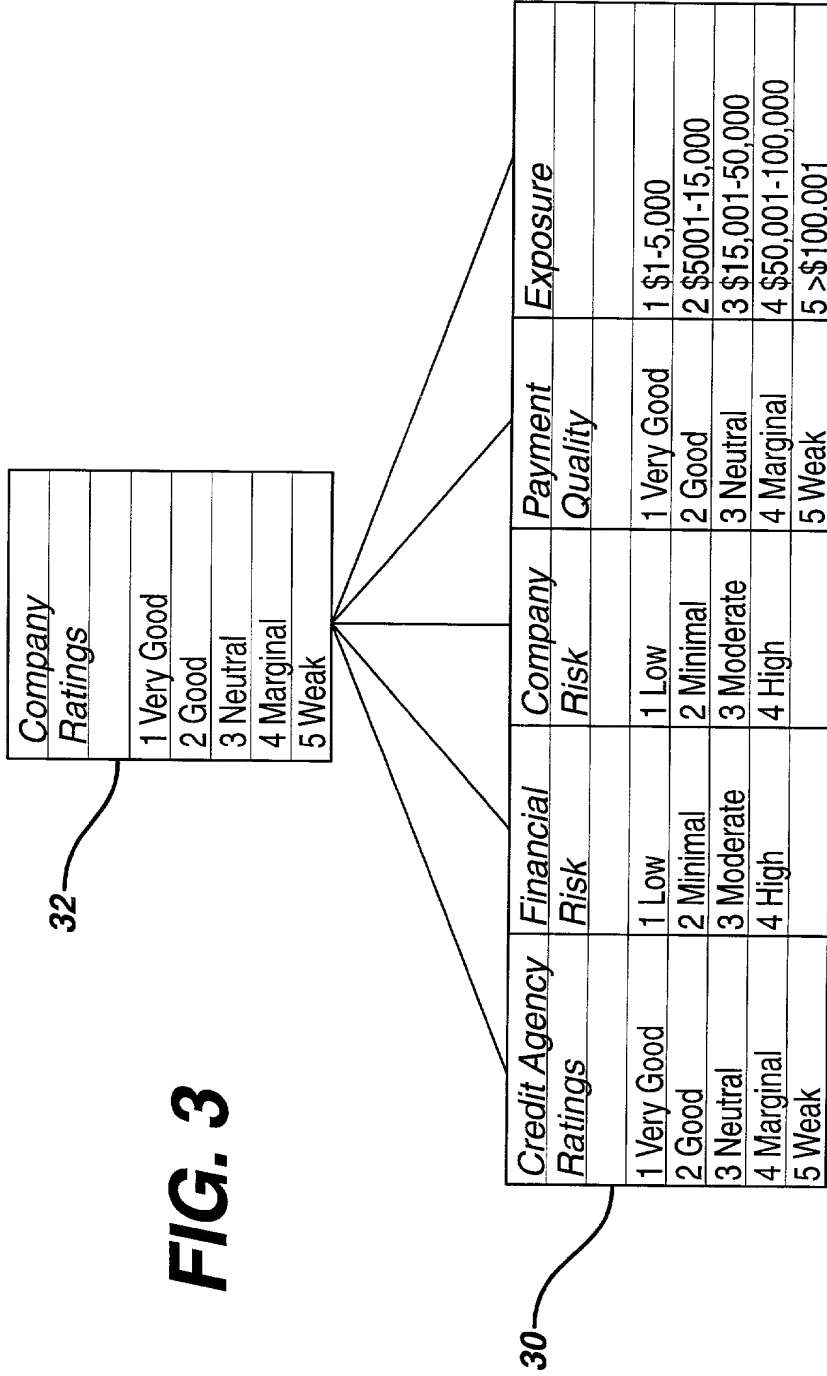
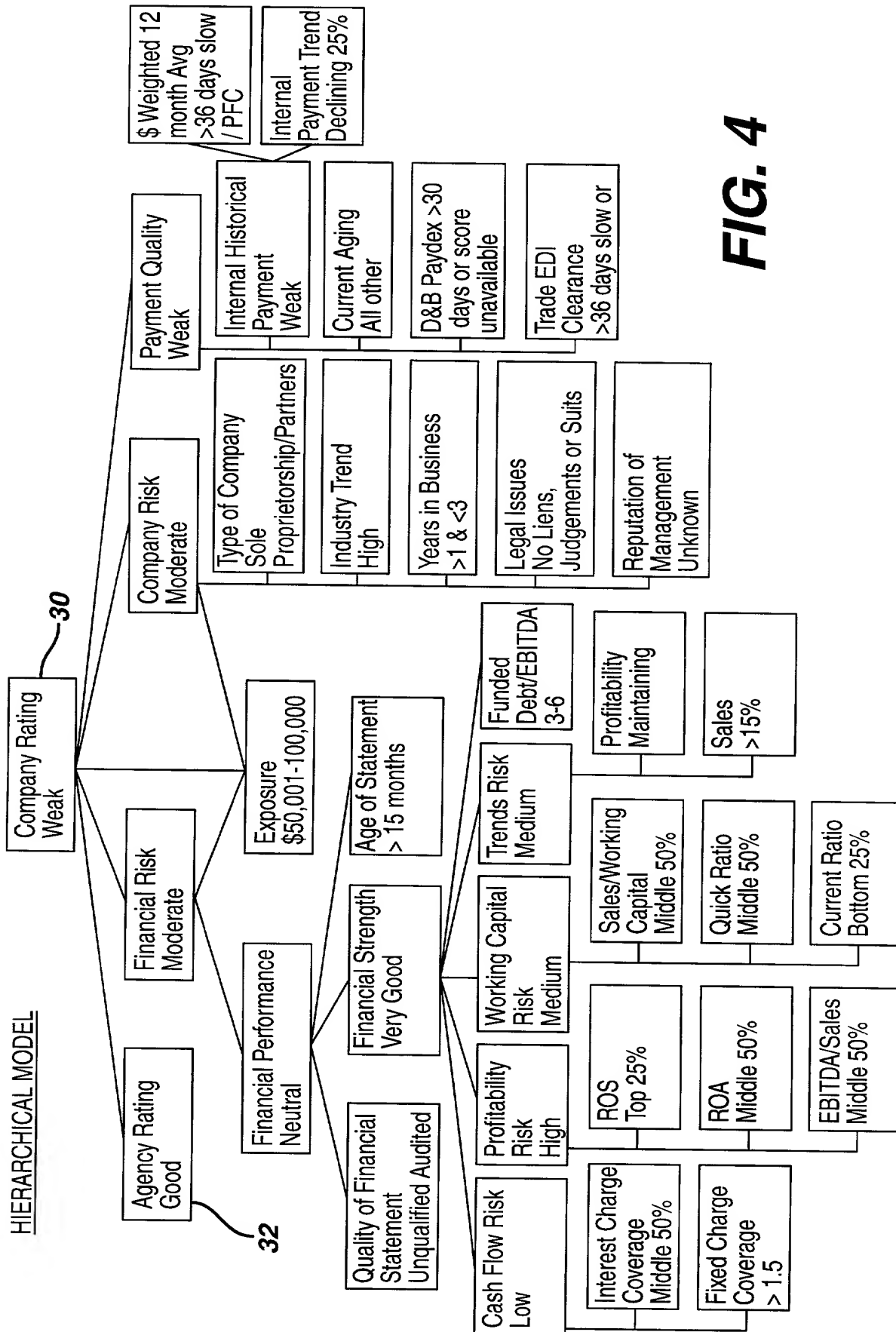


FIG. 3





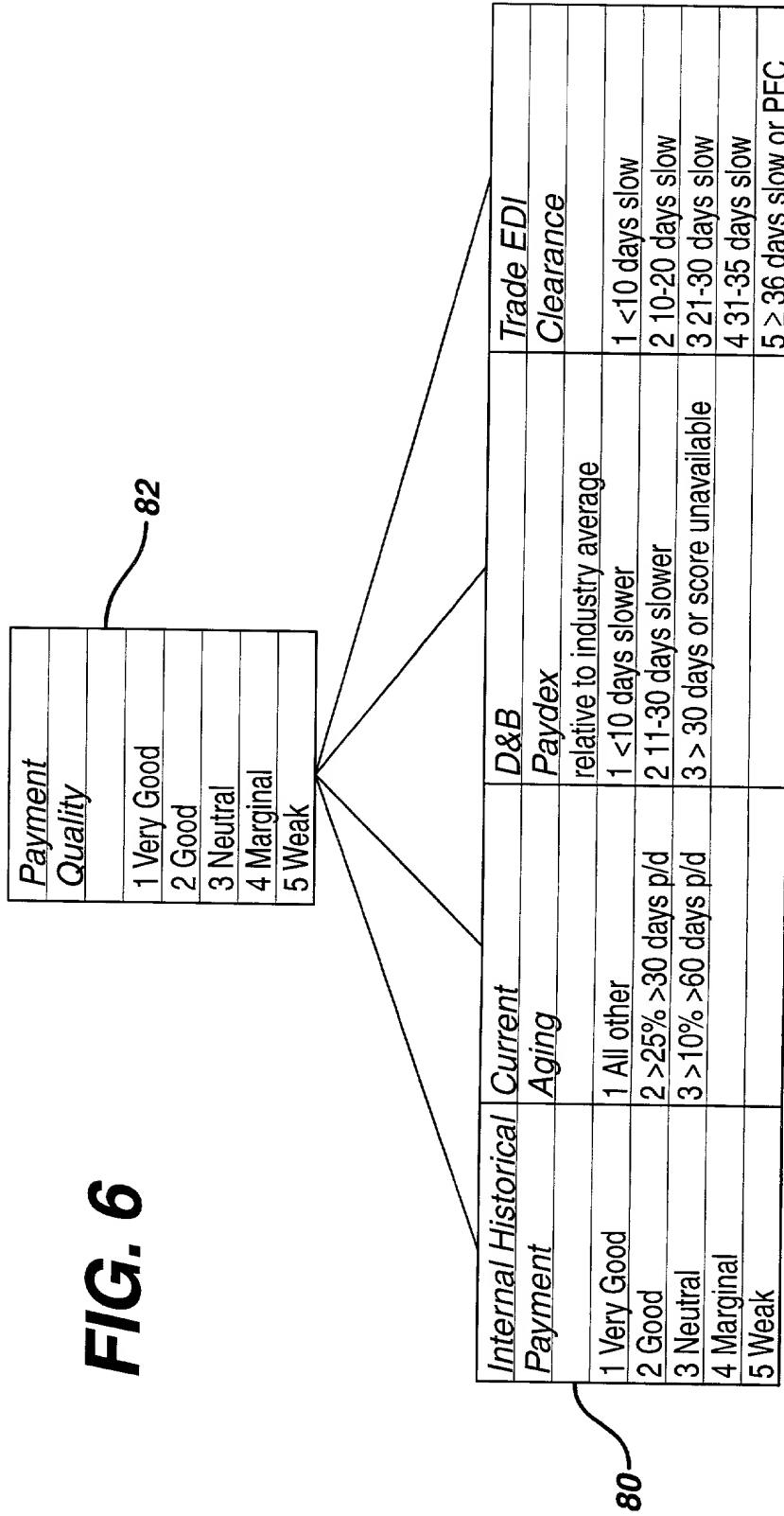
**FIG. 4**

**D&B Mapping of Raw Data(e.g., from D&B) for Credit Agency Ratings**

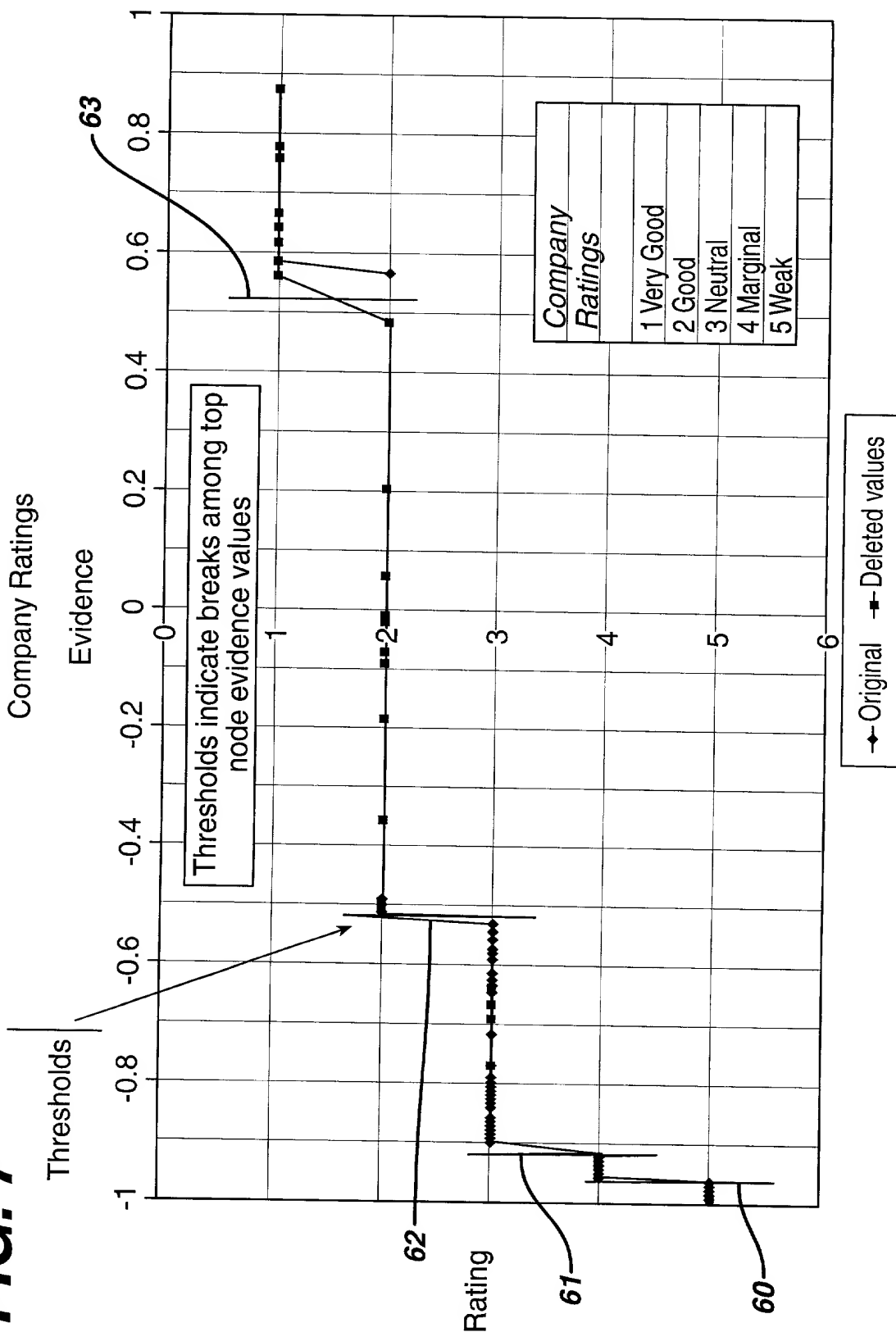
1. Very Good	2. Good	3. Neutral	4. Marginal	5. Weak
5A1 5A2 4A1 4A2 3A1	3A2 2A1 2A2 1A1 1A2 BA1 BA2 CB1 CB2 CC1 DC1	5A3 4A3 3A3 2A3 1A3 BA3 DC2 DD1 EE1 FF1 GG1 HH1	BB3 CB3 CC3 DC3 DD2 EE2 FF2 GG2 HH2 1R2 2R2  NL -- NQ ER1 ER2 ER3 ER4 ER5 ER6 ER7 ER8 ERN	5A4 4A4 3A4 2A4 1A4 BA4 BB4 CB4 CC4 DC4 DD3 DD4 EE3 EE4 FF3 FF4 GG3 GG4 HH3 HH4 1R3 1R4 2R3 2R4

**FIG. 5**

FIG. 6



**FIG. 7**



32

30

Create a statistical sample  
of the possible hypothetical  
cases  
- Expert supplies his  
opinion or diagnosis

Used as input to  
machine learning  
technique

FIG. 8

Company Rating

Agency Rating	Financial Risk	Company Risk	Payment Quality	Exposure	Company Rating
1 Very Good	1 Low	1 Low	1 Very Good	1 \$1-5,000	1 Very Good
2 Good	2 Minimal	2 Minimal	2 Good	2 \$5001-15,000	2 Good
3 Neutral	3 Moderate	3 Moderate	3 Neutral	3 \$15,001-50,000	3 Neutral
4 Marginal	4 High	4 High	4 Marginal	4 \$50,001-100,000	4 Marginal
5 Weak			5 Weak	5 >\$100,001	5 Weak
Case					Comment
604	2	3	1	4	3
1821	5	3	1	1	4
1567	4	4	3	2	5
1713	5	2	1	3	2
260	1	3	2	5	4
1952	5	4	3	1	3
152	1	2	3	1	2
691	2	3	4	1	4
1659	5	1	3	2	3
588	2	2	4	3	3
1093	3	3	4	3	4
132	1	2	2	2	1
760	2	4	3	5	5
25	1	1	1	5	3
1381	4	2	4	1	2
107	1	2	1	2	1
1156	3	4	3	1	2
1880	5	3	4	5	4
595	2	2	4	5	4
591	2	2	4	1	3
142	1	2	4	2	2
1924	5	4	1	4	5
1364	4	2	3	4	3
646	2	3	2	1	5
1704	5	2	1	4	2
1123	3	4	1	3	5
312	1	4	1	2	3
554	2	2	3	4	2
69	1	1	3	4	3
946	3	2	2	1	4

16



FIG. 9

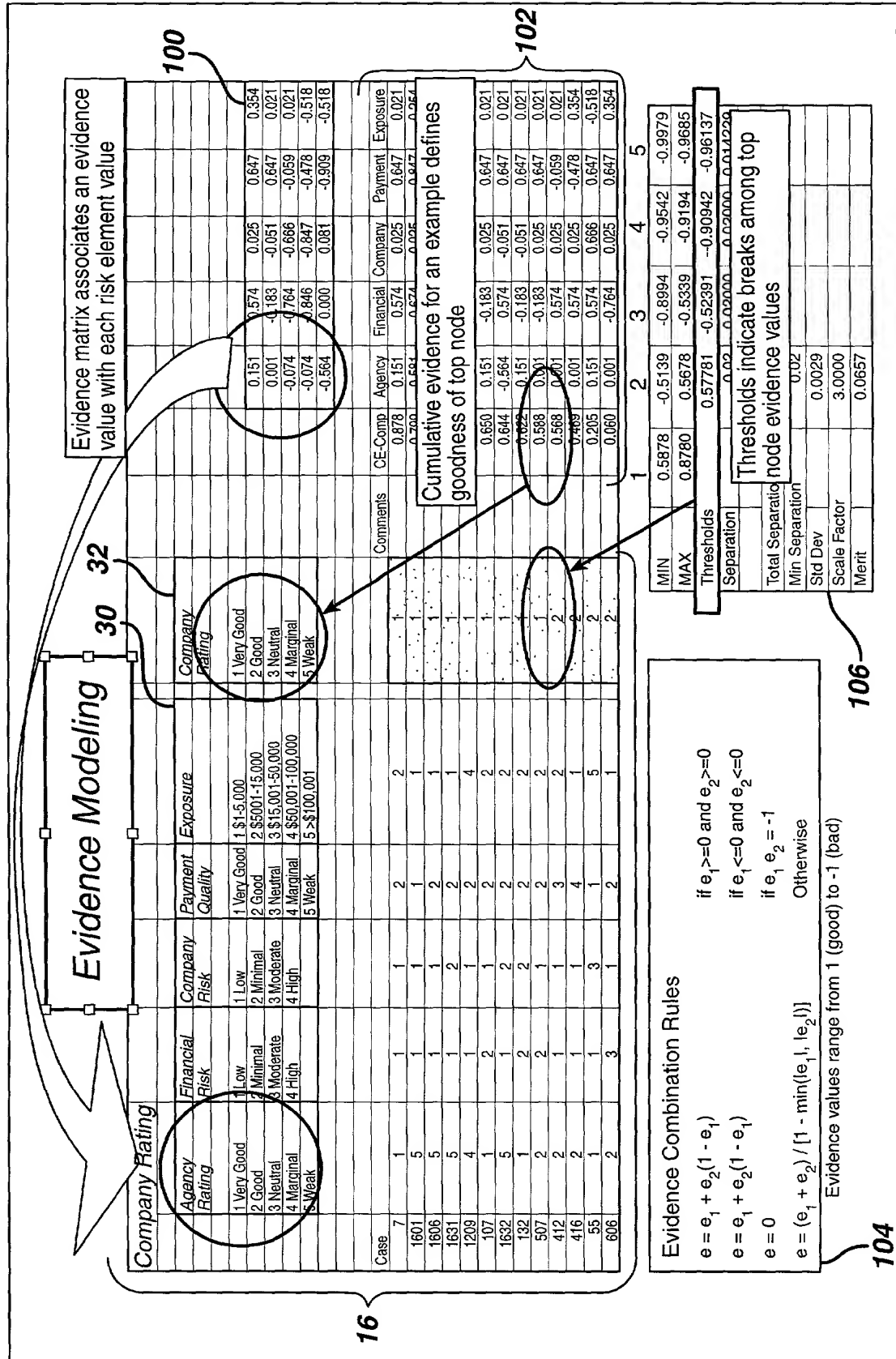
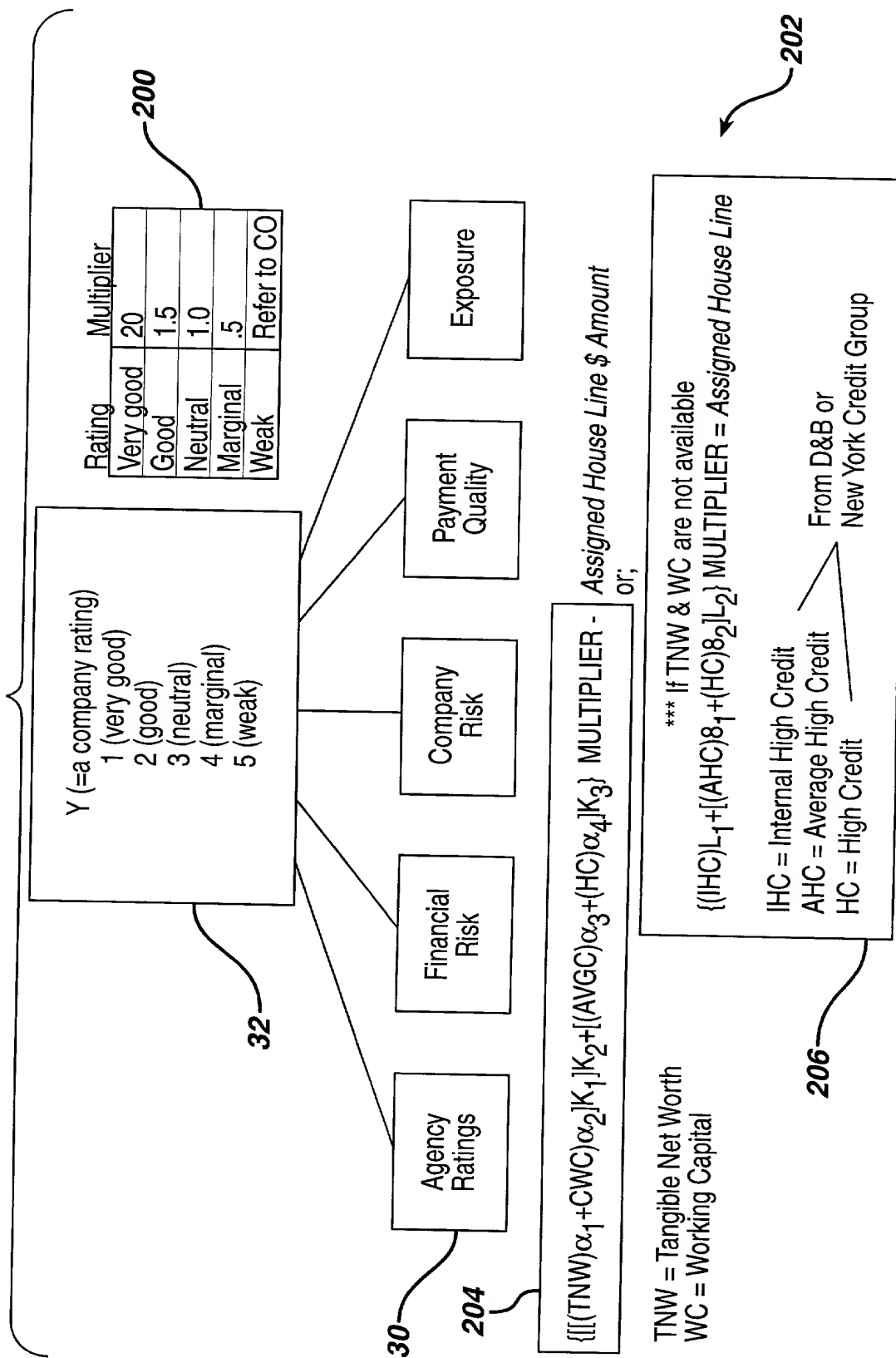


FIG. 10



**FIG. 11**

16

Financial Risk		30	32	
Financial Performance	Exposure	Financial Risk	Comments	
1 Very Good	1 \$1-5,000	1 Low	Credit officers thought they know size of the company/	
2 Good	2 \$5,001-15,000	2 Minimal	of net worth) before they co	
3 Neutral	3 \$15,001-50,000	3 Moderate	accurately assess the risk.	
4 Marginal	4 \$50,001-100,000	4 High		
5 Unknown	5 >\$100,001			
6 Weak				

Case	Financial Performance	Exposure	Financial Risk	Comments
1	1	1	1	
6	2	1	1	
11	3	1	1	
2	1	2	1	
7	2	2	1	
3	1	3	1	
12	3	2	2	
8	2	3	2	
16	4	1	2	
13	3	3	2	
21	6	1	2	
26	5	1	2	
4	1	4	3	
17	4	2	3	
9	2	4	3	Changed from a 2
18	4	3	3	
22	6	2	3	
27	5	2	3	
5	1	5	3	
14	3	4	3	
23	6	3	4	
28	5	3	4	
10	2	5	4	
15	3	5	4	Changed from a 3
19	4	4	4	
24	6	4	4	
29	5	4	4	

The approach identifies values that are outside the logic developed for the majority of cases.

In all cases they were changed one "bin" value to conform. Changes were confirmed by experts.

FIG. 12

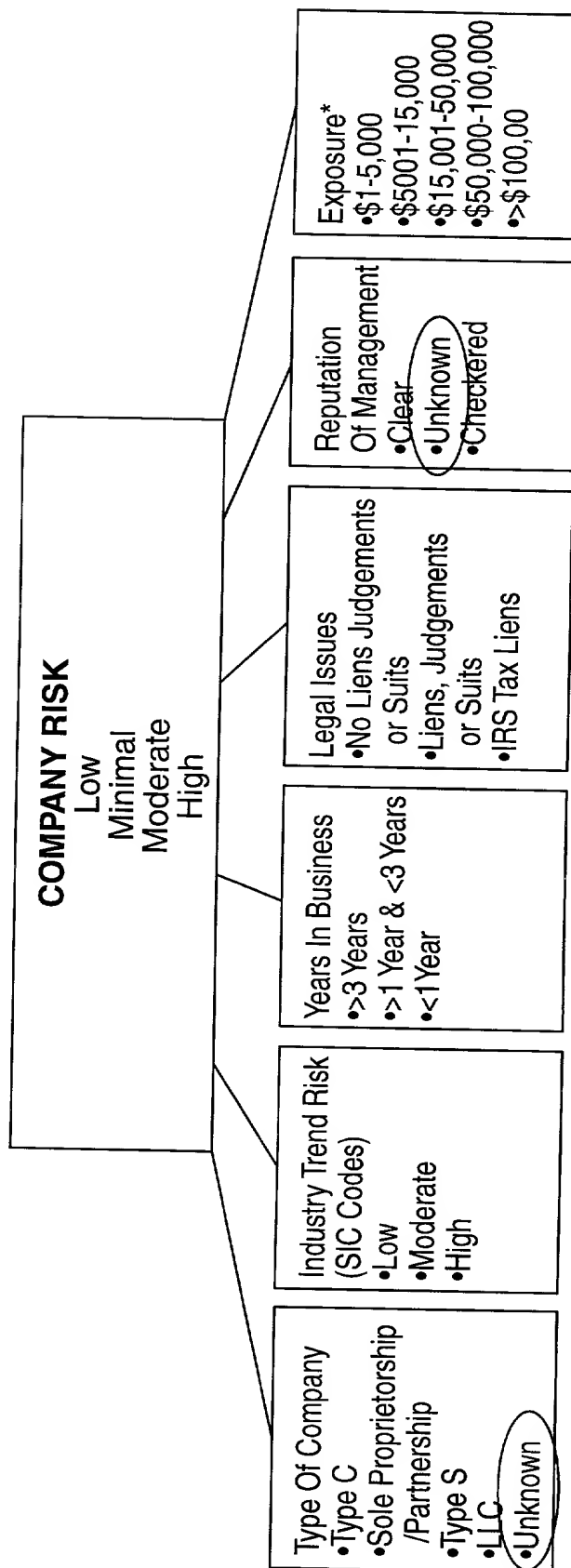


FIG. 13

**Inputs**

\$ Weighted 12 month Avg	2 11-20 days slow
Internal Payment Trend	2 24% to -24%(or Unknown)
Sales/Working Capital	2 Middle 50%
Quick Ratio	2 Middle 50%
Current ratio	2 Middle 50%
Profitability	# Down > 10%
Sales	4 Declining
ROS	3 Bottom 25%
ROA	3 Bottom 25%
EBITDA/Sales	3 Bottom 25%
Agency Rating	4 Marginal
Exposure	5 > \$100,0001
Type of Company	1 Type C
Industry Trend	1 Low
Years in Business	1 > 3
Legal Issues	1 No Liens, Judgements or Suits
Reputation of Management	3 Checkered
Quality of Financial Statement	1 Unqualified Audited
Age of Statement	1 < 6 months
Funded Debt/EBITDA	3 > 6 or <0
Fixed Charge Coverage	1 > 1.5
Interest Charge Coverage	3 Bottom 25%
Current Aging	1 All other
D&B Paydex	2 11-30 days slower(or Unknown)
Trade EDI Clearance	2 10-20 days slow

**Run Model**

☒ Financials Known  
☒ Payment Information Known

**Company Rating**

Net Worth

Working Capital

Avg. High Credit

High Credit

Internal High Credit

Marginal

\$0

\$0

\$11,005

\$200,000

\$150,000

Base Credit Line

Multiplier

House Line

\$108,852

0.5

\$54,000

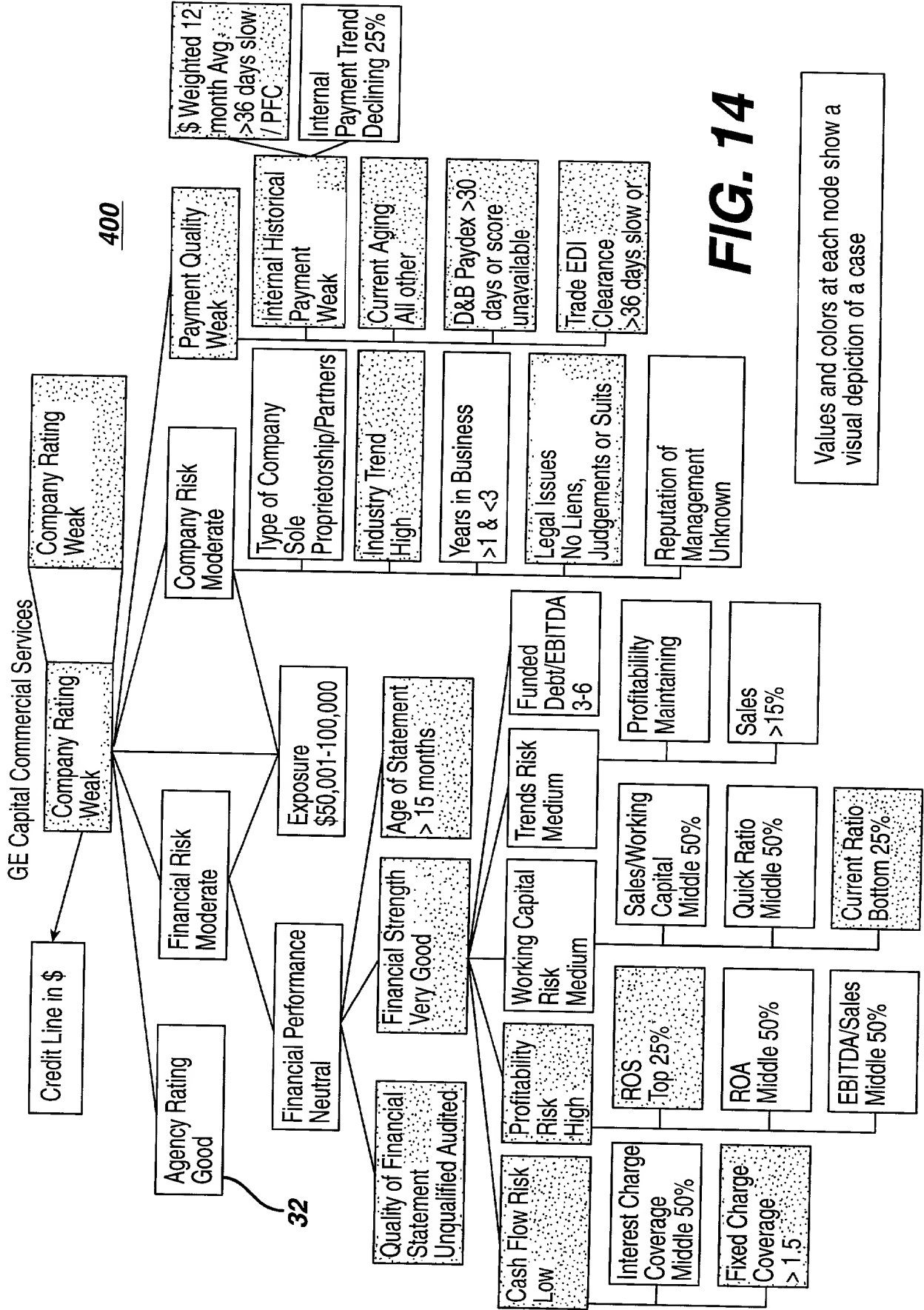
300

302

304

306

308



**FIG. 14**

Values and colors at each node show a visual depiction of a case

500

FIG. 15

GE Capital Commercial Service	Test Case 4	The Financial performance of:	Neutral
House Line	\$54,000.00	Was based on:	
The Overall Company Rating of:	Marginal	A Quality of Financial Statement of:	Unqualified Audited
Was based on:		A Financial Strength of:	Very Good
An Agency Rating of:	Marginal	An Age of Statement of:	15 months
A Financial Risk of:	High		
An Exposure of:	> \$100,000.1	The Financial Strength of:	Very Good
A Company Risk of:	Moderate	Was based on:	
A Payment Quality of:	Good	A Cash Flow Risk of:	Low
		A Profitability Risk of:	High
The Financial Risk of:	High	A Working Capital Risk of:	Medium
Was based on:		A Trends Risk of:	Medium
A Financial Performance of:	Marginal	A Funded Debt/EBITA of:	3-6
An Exposure of :	> \$100,000.1		
		The Cash Flow Risk of:	Low
The Company Risk of:	Moderate	Was based on:	
Was based on:		An Interest Charge Coverage of:	Middle 50%
A Type of Company of:	Type C	A Fixed Charge Coverage of:	> 1.5
An Industry Trend of:	Low		
Years in Business of:	>3	The Profitability Risk of:	High
Legal Issues of:	No Liens, Judgements or Suits	Was based on:	
A reputation of management of:	Checkered	A ROS of:	Top 25%
		A ROA of:	Middle 50%
The Payment Quality of:	Good	An EBITA/Sales Ratio of:	Middle 50%
Was based on:			
An Internal historical payment of:	Good	The Working Capital Risk of:	Medium
A Current Aging of:	All other	Was based on:	
A D&B Paydex of:	11-30 days slower (or Unknown)	A Sales/Working Capital Ratio of:	Middle 50%
A Trade EDI of:	10-20 days slow	A Quick ration of:	Middle 50%
		A Current ration of:	Bottom 25%
The Internal Historical Payment of:	Good	The Trends Risk of:	Medium
Was based on:		Was based on:	
A Weighted Monthly Average of:	11-20 days slow	A Profitability of:	Maintaining
A Payment Trend of:	24% to -24% (or Unknown)	A Sales of:	> 15%